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H26 gsr
April 1991

ENVIROCON, INC.

101 INTERNATIONAL WAY
POST OFFICE BOX 5243
MISSOULA, MONTANA 59807
TELEPHONE: (406) 523-1150
FAX: (406) 721-4794

PLEASE RETURN

ENVIROCON, INC.

July 19, 1991

STATE DOCUMENTS COLLECTION

Solid and Hazardous Waste Bureau
Department of Health and
Environmental Sciences
Cogswell Building
Helena, Montana 59620

AUG 09 1991

MONTANA STATE LIBRARY
1515 E. 6th AVE.
HELENA, MONTANA 59620

Attention: Mr. John Wadhams

Subject: April 1991 Ground Water Sampling Results

Dear John:

On April 24, 1991, Burlington Northern Railroad Co., through its contractor Envirocon, Inc., collected five ground water samples as part of the April 1991 monthly ground water sampling round. Four of the samples were collected at Wells LG-10, 89-2, the Thompson residence, and the B Street Municipal Well, and one sample was a trip blank.

All samples were analyzed at Energy Laboratories, Inc. in Billings, Montana. All samples were analyzed for purgeable halocarbons by EPA Method 601, except for the B Street Well sample and the Thompson residence, which were analyzed for volatile organic compounds by EPA Method 524.2.

No detectable VOC or Purgeable halocarbons concentrations were found in the samples collected during the April 1991 sampling round. Complete sample analytical results are enclosed.

Montana State Library



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Mr. John Wadhams
July 19, 1991
Page Two

If you have any questions or comments, please contact me at your convenience.

Sincerely,

ENVIROCON, INC.

John Mills

John Mills

Hydrogeologist

Kris Kok by pm

Kris Kok

Project Manager

JPM\pm

Enclosures

cc: Mel Burda
 Steve Pilcher
 Dennis Iverson
 Mike Stevenson



MAY 31 1991
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ENVIROCON, Inc.
Livingston, MtENVIROCON
PO BOX 1154
LIVINGTON MT 59047

Water Analysis

PROJECT: Livingston / BN

LG-10

87-2

Jeff
Blank

LAB NO.	91-13911	91-13912	91-13913
SAMPLE IDENTIFICATION	140101-711	140101-712	140101-713
SAMPLE SUBMITTED	04/26/91	04/26/91	04/26/91
DATE REPORTED	05/08/91	05/08/91	05/08/91
SAMPLE DATE	04/24/91	04/24/91	04/24/91
SAMPLE TIME	1030	1200	1440
SAMPLE REVISED	05/30/91	05/30/91	05/30/91
CONSTITUENT	ug/l	ug/l	ug/l
Purgeable Halocarbons (EPA Method 8260)	<1.0	<1.0	<1.0
Bromodichloromethane	<1.0	<1.0	<1.0
Bromoform	<1.0	<1.0	<1.0
Bromomethane	<1.0	<1.0	<1.0
Carbon tetrachloride	<1.0	<1.0	<1.0
Chlorobenzene	<1.0	<1.0	<1.0
Chloroethane	<1.0	<1.0	<1.0
2-Chloroethylvinyl ether	<1.0	<1.0	<1.0
2-Chlorotoluene	<1.0	<1.0	<1.0
Chloroform	<1.0	<1.0	<1.0
Chloromethane	<1.0	<1.0	<1.0
Dibromochloromethane	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	<0.50	<0.50	<0.50
1,1-Dichloroethane	<1.0	<1.0	<1.0
1,2-Dichloroethane	<0.50	<0.50	<0.50
1,1-Dichloroethene	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	<1.0	<1.0	<1.0
1,2-Dichloropropane	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	<1.0	<1.0	<1.0
Methylene chloride	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0
Tetrachloroethene	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	<1.0	<1.0	<1.0
Trichloroethene	<0.50	<0.50	<0.50
Trichlorofluoromethane	<1.0	<1.0	<1.0
Vinyl chloride	<0.50	<0.50	<0.50
Dichlorodifluoromethane	<1.0	<1.0	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

Q.A. REVIEW:

Joe Stanisl



M 6/7/91
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JUN 07 1991
ENVIROCON, Inc.
Livingston, MT

ENVIROCON
PO BOX 1154
LIVINGSTON MT 59047

Water Analysis

PROJECT: Livingston / BN

LAB NO.	91-13909	91-13910	91-13910	Duplicate
SAMPLE IDENTIFICATION	140101-710	140101-714	140101-714	91-13910
SAMPLE SUBMITTED	04/26/91	04/26/91	04/26/91	04/26/91
DATE REPORTED	05/08/91	05/08/91	05/08/91	05/08/91
REVISED DATE	06/06/91	06/06/91	06/06/91	06/06/91
SAMPLE DATE	04/24/91	04/24/91	04/24/91	04/24/91
SAMPLE TIME	0950	1130	1130	1130
CONSTITUENT	ug/l	ug/l	ug/l	ug/l
Benzene	<0.50	<0.50	<0.50	<0.50
Bromobenzene	<1.0	<1.0	<1.0	<1.0
Bromochloromethane	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	<1.0	<1.0	<1.0	<1.0
Bromoform	<1.0	<1.0	<1.0	<1.0
Bromomethane	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene	<1.0	<1.0	<1.0	<1.0
sec-Butylbenzene	<1.0	<1.0	<1.0	<1.0
tert-Butylbenzene	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	<1.0	<1.0	<1.0	<1.0
Chloroethane	<1.0	<1.0	<1.0	<1.0
Chloroform	<1.0	<1.0	<1.0	<1.0
Chloromethane	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene	<1.0	<1.0	<1.0	<1.0
4-Chlorotoluene	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane	<1.0	<1.0	<1.0	<1.0
Dibromochloromethane	<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane	<1.0	<1.0	<1.0	<1.0
Dibromomethane	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethene	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0



ENVIROCON
PO BOX 1154
LIVINGSTON MT 59047Water Analysis
PROJECT: Livingston / BN

PAGE 2

LAB NO.	91-13909	91-13910	91-13910
SAMPLE IDENTIFICATION	140101-710	140101-714	140101-714
SAMPLE SUBMITTED	04/26/91	04/26/91	04/26/91
DATE REPORTED	05/08/91	05/08/91	05/08/91
REVISED DATE	06/06/91	06/06/91	06/06/91
SAMPLE DATE	04/24/91	04/24/91	04/24/91
SAMPLE TIME	0950	1130	1130
CONSTITUENT	ug/l	ug/l	ug/l
1,3-Dichloropropane	<1.0	<1.0	<1.0
2,2-Dichloropropane	<1.0	<1.0	<1.0
1,1-Dichloropropene	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	<1.0	<1.0	<1.0
Ethylbenzene	<1.0	<1.0	<1.0
Hexachlorobutadiene	<1.0	<1.0	<1.0
Isopropylbenzene	<1.0	<1.0	<1.0
p-Isopropyltoluene	<1.0	<1.0	<1.0
Methylene chloride	<1.0	<1.0	<1.0
Naphthalene	<1.0	<1.0	<1.0
n-Propylbenzene	<1.0	<1.0	<1.0
Styrene	<1.0	<1.0	<1.0
1,1,1,2-Tetrachloroethane	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0
Tetrachloroethene	<0.50	<0.50	<0.50
Toluene	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	<1.0	<1.0	<1.0
Trichloroethene	<0.50	<0.50	<0.50
Trichlorofluoromethane	<1.0	<1.0	<1.0
1,2,3-Trichloropropane	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	<1.0	<1.0	<1.0
Vinyl chloride	<0.50	<0.50	<0.50
Xylenes	<1.0	<1.0	<1.0

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA Method 524.2.

Q.A. Review: *P. A. Noan*





ENERGY LABORATORIES, INC.

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JUN 07 1991
ENVIROCON, Inc.
Livingston, MTENVIROCON
PO BOX 1154
LIVINGSTON MT 59047

WATER VOLATILE SURROGATE RECOVERY

10 ug/l Surrogate Standard Spike

PROJECT: Livingston/BN

-----% recovery-----

SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #
91-13909	111	102	89
91-13910	107	104	85
91-13910 dup	112	90	101

QC LIMITS, % Recovery
(80-120)
(80-120)
(80-120)

Column to be used to flag recovery values with an asterisk

* Values outside of contract required QC limits

Q.A. Review: D. H. Sloan



ENVIROCON
PO BOX 1154
LIVINGSTON MT 59047RECEIVED
MAY 31 1991
ENVIROCON, INC.
Livingston, MT

QUALITY ASSURANCE SPIKED ANALYSIS

PROJECT: Livingston / BN

Lab No. 91-13911 was spiked with
the following constituents with
these results

Constituent	Spike Amount, ug/l	P(%)	Range for P(%)
1,1-Dichloroethene	5.0	123	60 - 140
Benzene	5.0	110	60 - 140
Trichloroethene	5.0	110	60 - 140
Toluene	5.0	118	60 - 140
Chlorobenzene	5.0	125	60 - 140

P=Percent recovery measured

Q.A. REVIEW: for Stanley



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PO BOX 1154
LIVINGSTON MT 59047RECEIVED
MAY 31 1991
ENVIROCON, Inc.
Livingston, Mt.

WATER VOLATILE SURROGATE RECOVERY

10 ug/l Surrogate Standard Spike

PROJECT: Livingston / BN

SAMPLE NO.	% Recovery		
	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #
91-13911	118	103	108
91-13912	113	101	104
91-13913	115	102	101

S1 (TOL) = Toluene-d8 QC LIMITS, % Recovery
S2 (BFB) = Bromofluorobenzene (80-120)
S3 (DCE) = 1,2-Dichloroethane-d4 (80-120)

Column to be used to flag recovery values with an asterisk

* Values outside of contract required QC limits

Q.A. REVIEW: for Shandri

